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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/803,271 | 03/18/2004 | Paul Kremer | LUXE 8892 US | 5387 |

1688 7590 08/03/2006

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| EXAMINER |
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RIVELL, JOHN A

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

3753

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/803,271

Applicant(s)

KREMER ET AL.

Examiner

John Rivell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/15/06 (election).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 3, 6, 12 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5, 7-11, 13, 14, 16-19 and 21-23 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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New claims 17-23 have been added. Thus claims 1-23 are pending.

Applicant's election without traverse of the species of figure 2, claims 1, 2, 4, 5, 7-11, 13, 14 and 16-23 in the reply filed on May 15, 2006 is acknowledged.

Claims 3, 6, 12 and 15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on May 15, 2006.

Claim 20 is objected to because of the following informalities: In line 7, spelling of the term "engage*ment" appears to be incorrect. Appropriate correction is required.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mears in view of Loyd et al. (cited by applicant).

The recitation "for a gas or liquid cylinder" is a statement of intended use bearing no patentable weight.

The patent to Mears discloses a "tap..., comprising: a tap body having a root end portion, said root end portion having a threaded section (B), a free (right) end, and a

reduced diameter section (b^2) between said threaded section (B) and said free (right) end; an elongated stem (f) mounted in said tap body, said stem having a longitudinal axis; an inverted seat primary valve (F) provided in said tap body at a side of the root end portion opposite said reduced diameter section (b^2) and said free (right) end; a secondary check valve (D)... . said secondary check valve (D) being mounted to said reduced diameter section (b^2); wherein said stem (f) is axially movable in a first direction towards said secondary check valve (D) to open said primary valve (F) and to open said secondary check valve (D) against the biasing ... force to permit fluid flow through said tap body from an inlet to an outlet thereof, and in a second opposite direction to permit said secondary check valve (D) to be closed by said biasing... and to shut-off fluid flow from said inlet to said outlet of said tap body" as recited in claim 10.

Thus the patent to Mears discloses all the claimed features with the exception of having the secondary valve at D "spring biased" to a closed position.

The patent to Loyd et al. discloses that it is known in the art to employ a secondary check valve at 14, spring biased to a closed position by a biasing spring 21 for the purpose of positively closing the secondary valve upon loss of the primary valve 8.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Mears a biasing spring acting on valve D to bias valve D closed for the purpose of positively closing the secondary valve D upon loss of the primary valve F as recognized by Loyd et al.

Regarding claim 11, in Mears, "a check valve seat surface (b^3) is formed adjacent a free (right) end of said reduced diameter section (b^2)" as recited.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mears in view of Loyd et al. as applied to claims 10-11 above, further in view of Follett.

The patent to Mears, as modified by Loyd et al., discloses all the claimed features with the exception of having “said check valve (at D comprise) a piston engageable with said seat surface, said piston and the check valve biasing spring disposed about the piston being retained in an open-ended sleeve tube secured to said reduced diameter section”.

The patent to Follett discloses, in figure 1 for example, that it is known in the art to employ at a secondary spring biased closed check valve 80, a “piston engageable with (a) seat surface (at seal 87), said piston and the check valve biasing spring (76) disposed about the piston (at lower sleeve 70) being retained in an open-ended sleeve tube (64) secured to (a) reduced diameter section” at the lower end of valve body portion 60 for the purpose of retaining the biasing spring in engagement with the biased closed valve 80.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Mears, as modified by Loyd et al., a “piston” type valve element and an “open end” retainer containing the piston valve and the biasing spring for the purpose of retaining the biasing spring in engagement with the biased closed valve as recognized by Follett.

Regarding claim 14, in Mears, “the secondary check valve (D) is disposed within said reduced diameter section (b²); said seat surface (b³) is formed intermediate the ends of the reduced diameter section (b²)” as recited.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mears in view of Loyd et al. as applied to claims 10-11 above, further in view of Nottingham.

The patent to Mears, as modified by Loyd et al., discloses all the claimed features with the exception of having structure in which "in the closed position of the primary valve (F) a check valve (D) actuating end of the stem (f) is spaced from the check valve (D) element so that when the stem (f) is moved in said one direction the primary valve (F) is opened first and when said stem is moved in said second direction the check valve (D) is allowed to close first".

The patent to Nottingham discloses that it is known in the art to employ structural dimensions in which "in the closed position of (a) primary valve (C) a check valve (D) actuating end of (a) stem (c, e.g. the left end face of valve C) is spaced from the check valve element (at stem d) so that when the stem (c) is moved in said one direction the primary valve (C) is opened first and when said stem is moved in said second direction the check valve (D) is allowed to close first" for the purpose of allowing the pressure drop acting on the primary valve to be lessened during closing movement thus avoiding pressure responsive forces acting on the primary valve forcing the primary valve closed against the valve seat.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Mears, as modified by Loyd et al., dimensions of the valve stem in which "in the closed position of the primary valve (F) a check valve (D) actuating end of the stem (f) is spaced from the check valve (D) element so that when the stem (f) is moved in said one direction the primary valve (F) is opened first and when said stem is moved in said second direction the check valve (D) is allowed to close first" for the purpose of allowing the pressure drop acting on the

primary valve to be lessened during closing movement thus avoiding pressure responsive forces acting on the primary valve forcing the primary valve closed against the valve seat as recognized by Nottingham.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mears in view of Loyd et al., as applied to claims 10 and 11 above, further in view of Fairlamb.

The patent to Mears, as modified by Loyd et al., discloses all the claimed features with the exception of having, on the “inversed seat primary valve” F “an annular sealing ring”.

The patent to Fairlamb discloses that it is known in the art to employ on an “inversed seal primary valve” at 90, “an annular sealing ring” 91 for the purpose of perfecting fluid tight closure of the valve head and seat.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Mears, as modified by Loyd et al., an “annular seal ring” attached to the valve head F of Mears for the purpose of perfecting fluid tight closure of the valve head and seat as recognized by Fairlamb.

Claims 4, 5, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mears in view of Loyd et al. and Fairlamb as applied to claims 1 and 2 above, further in view of Follett.

The patent to Mears, as modified by Loyd et al. and Fairlamb, discloses all the claimed features with the exception of having “a piston engageable with said seat

surface, said piston and the check valve biasing spring disposed about the piston being retained in an open-ended sleeve tube secured to said reduced diameter section”.

The patent to Follett discloses, in figure 1 for example, that it is known in the art to employ at a secondary spring biased closed check valve 80, a “piston engageable with (a) seat surface (at seal 87), said piston and the check valve biasing spring (76) disposed about the piston (at lower sleeve 70) being retained in an open-ended sleeve tube (64) secured to (a) reduced diameter section” at the lower end of valve body portion 60 for the purpose of retaining the biasing spring in engagement with the biased closed valve 80.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Mears, as modified by Loyd et al. and Fairlamb, a “piston” type valve element and an “open end” retainer containing the piston valve and the biasing spring for the purpose of retaining the biasing spring in engagement with the biased closed valve as recognized by Follett.

Regarding claim 5, in Mears, “the check valve element (D) is disposed within said reduced diameter section (b^2) and is engageable with a seat surface (b^3) formed intermediate the ends of the reduced diameter section (b^2)” as recited.

Regarding claim 8, in Mears, “the stem (f) has the extension portion fixedly secured thereto” as recited.

Regarding claim 9, in Mears, “the stem (f) has the extension portion integrally formed in one piece therewith” as recited.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mears in view of Loyd et al. and Fairlamb as applied to claims 1 and 2 above, further in view of Nottingham.

The patent to Mears, as modified by Loyd et al. and Fairlamb, discloses all the claimed features with the exception of having structure in which "in the closed position of the primary valve (F) the free end of the stem (f) extension is spaced from the check valve (D) element so that when the stem (f) is moved in said one direction the primary valve (F) is opened first and when said stem is moved in said second direction the check valve (D) is allowed to close first".

The patent to Nottingham discloses that it is known in the art to employ structural dimensions in which "in the closed position of (a) primary valve (C) a check valve (D) actuating end of (a) stem (c, e.g. the left end face of valve C) is spaced from the check valve element (at stem d) so that when the stem (c) is moved in said one direction the primary valve (C) is opened first and when said stem is moved in said second direction the check valve (D) is allowed to close first" for the purpose of allowing the pressure drop acting on the primary valve to be lessened during closing movement thus avoiding pressure responsive forces acting on the primary valve forcing the primary valve closed against the valve seat.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Mears, as modified by Loyd et al., dimensions of the valve stem in which "in the closed position of the primary valve (F) the free end of the stem (f) extension is spaced from the check valve (D) element so that

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when the stem (f) is moved in said one direction the primary valve (F) is opened first and when said stem is moved in said second direction the check valve (D) is allowed to close first” for the purpose of allowing the pressure drop acting on the primary valve to be lessened during closing movement thus avoiding pressure responsive forces acting on the primary valve forcing the primary valve closed against the valve seat as recognized by Nottingham.

Claims 17, 18, 19, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mears in view of Follett, further in view of Holicer.

The recitation “for a gas or liquid cylinder” is a statement of intended use bearing no patentable weight.

The patent to Mears discloses a “tap... , comprising: a tap body having a root end portion (generally at B), said root end portion having a free (right) end and an exteriorly threaded section (at B) adapted to be engaged in a threaded opening of a gas or liquid cylinder (read at wall A); an elongated valve [sic valve] actuating stem means (f) mounted in said tap body, said stem means (f) having a longitudinal axis; a primary valve means (F) provided in said tap body at a side of the root end portion opposite said free (right) end; and a secondary check valve means (D) having a movable (valve head)..., said stem means (f) being axially movable in a first direction to open said primary valve means (F) to permit fluid flow through said tap body from an inlet (at the right) to an outlet (on the left) thereof, and in a second opposite direction to close said primary valve means (F) to shut-off fluid flow from said inlet to said outlet of said tap body, said stem means (f) holding said secondary check valve means (D) in an open

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position at least when said primary valve means (F) is in an open position, said root end portion having a reduced diameter section (b^2) extending between the exteriorly threaded section (at B) and the free (right) end of the root end portion, said reduced diameter section (b^2) having a smaller external diameter than the exteriorly threaded section (at B), and the check valve seat (b^3) being formed on said reduced diameter section (b^2)" as recited in claim 17.

Thus the patent to Mears discloses all the claimed features with the exception of having "a movable piston element urged by a biasing spring to a closed position in engagement with a check valve seat on the root end portion; said piston element being disposed in an open-ended sleeve tube retention member fixed to the root end portion of the tap body" and the "retention member having one end thereof fixed to said root end portion about said reduced diameter section and being threaded at a free opposite end thereof to permit connection of a plunger tube thereto".

Firstly, the patent to Follett discloses, in figure 1 for example, that it is known in the art to employ at a secondary spring biased closed check valve 80, a "movable piston element urged by a biasing spring (76) to a closed position in engagement with a check valve seat (at seal 87) on the root end portion (60 of the valve body)... disposed in an open-ended sleeve (64) tube retention member fixed to the root end portion (60) of the tap body" for the purpose of retaining the biasing spring in engagement with the biased closed valve 80.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Mears, as modified by Loyd et al., a "piston"

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type valve element and an "open end" retainer containing the piston valve and the biasing spring for the purpose of retaining the biasing spring in engagement with the biased closed valve as recognized by Follett.

Secondly, the patent to Holicer discloses that it is known in the art to employ a "retention member (at lower valve body portion 81) having one end thereof fixed to said root end portion (of the valve body 1) and being threaded at a free opposite end thereof (at threads 84) to permit connection of a plunger tube (82) thereto for the purpose of extending the inlet to the valve within the extent of the pressurized cylinder to which the valve device is attached.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Mears, as modified by Follett, a lower threaded inlet to the "retention member" of the device of the combination for the purpose of extending the inlet to the valve within the extent of the pressurized cylinder to which the valve device is attached as recognized by Holicer.

Regarding claim 18, in Mears, "the check valve (D) seat (b^3) is formed at the free (right) end of the reduced diameter section (b^3)" as recited.

Regarding claim 19, as taught by Follett, "said biasing spring (76) is disposed in a spring chamber (within sleeve 64) and the fluid flow path through the check valve means bypasses said spring chamber" as recited.

Regarding claim 21, as taught by Holicer, "the retention member thread (84) for connection of a plunger tube (82) thereto is an internal thread" as recited.

Regarding claim 23, as taught by Follett, "said retention member (sleeve 64) has a smaller external diameter than the minimum base diameter of the exteriorly threaded section" of the valve body 60 as recited.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mears in view of Follett and Holicer as applied to claims 17, 18, 19, 21 and 23 above, further in view of Nottingham.

The patent to Mears, as modified by Follett and Holicer, discloses all the claimed features with the exception of having "said stem means being slightly spaced from said piston element when said primary valve means is in a closed position so that said primary valve means is open first followed by opening of said secondary check valve means when said stem means is moved in a first direction, and the secondary check valve means is allowed to close first followed by closing of the primary valve means when said stem means is moved in said second opposite direction".

The patent to Nottingham discloses that it is known in the art to employ structural dimensions allowing the "stem means (at the left face of valve C) being slightly spaced from said piston element (check valve D and stem d) when said primary valve means (C) is in a closed position so that said primary valve means (C) is open first followed by opening of said secondary check valve means (D) when said stem means is moved in a first direction, and the secondary check valve means (D) is allowed to close first followed by closing of the primary valve means (C) when said stem means is moved in said second opposite direction" for the purpose of allowing the pressure drop acting on the primary valve to be lessened during closing movement thus avoiding pressure

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responsive forces acting on the primary valve forcing the primary valve closed against the valve seat.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Mears, as modified by Follett and Holicer, structural dimensions allowing the "stem means (f) being slightly spaced from said piston element (check valve D and its associated stem) when said primary valve means (F) is in a closed position so that said primary valve means (F) is open first followed by opening of said secondary check valve means (D) when said stem means (f) is moved in a first direction, and the secondary check valve means (D) is allowed to close first followed by closing of the primary valve means (F) when said stem means (f) is moved in said second opposite direction" for the purpose of allowing the pressure drop acting on the primary valve to be lessened during closing movement thus avoiding pressure responsive forces acting on the primary valve forcing the primary valve closed against the valve seat as recognized by Nottingham. Further regarding claim 22, in Mears, "said primary valve means (F) is an inverted seat valve means" as recited.

Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (571) 272-4918. The examiner can normally be reached on Mon.-Thur. from 6:30am-5:00pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on (571) 272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


John Rivell
Primary Examiner
Art Unit 3753

j.r.